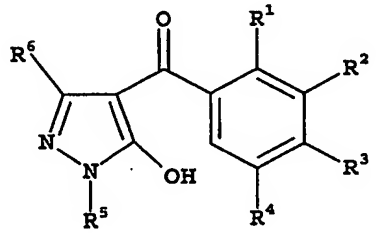
We claim:

1. A synergistic herbicidal mixture comprising

A) at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I



I

in which the variables have the following meanings:

R^1, R^3 are halogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylsulfinyl or C_1-C_6-alkylsulfonyl;

R^2 is a heterocyclic radical selected from the group: isoxazol-3-yl, isoxazol-4-yl, isoxazol-5-yl, 4,5-dihydroisoxazol-3-yl, 4,5-dihydroisoxazol-4-yl and 4,5-dihydroisoxazol-5-yl, it being possible for the six radicals mentioned to be unsubstituted or mono- or polysubstituted by halogen, C_1-C_4-alkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy or C_1-C_4-alkylthio;

R^4 is hydrogen, halogen or C_1-C_6-alkyl;

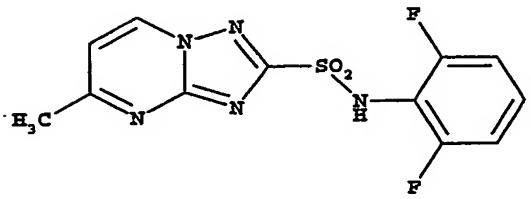
R^5 is C_1-C_6-alkyl;

R^6 is hydrogen or C_1-C_6-alkyl;

or one of its environmentally compatible salts;

and

B) at least the compound of formula IIa

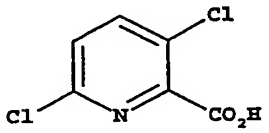


IIa

or one of its environmentally compatible salts;

or

the compound of formula IIb



IIb

or one of its environmentally compatible salts;

and, if desired,

C) at least one herbicidal compound from the group of the acetyl-CoA carboxylase inhibitors (ACC), acetolactate synthase inhibitors (ALS), amides, auxin herbicides, auxin transport inhibitors, carotenoid biosynthesis inhibitors, enolpyruvylshikimate 3-phosphate synthase inhibitors (EPSPS), glutamine synthetase inhibitors, lipid biosynthesis inhibitors, mitosis inhibitors, protoporphyrinogen IX oxidase inhibitors, photosynthesis inhibitors, synergists, growth substances, cell wall biosynthesis inhibitors and a variety of other herbicides;

in a synergistically effective amount.

2. A synergistic herbicidal mixture as claimed in claims 1, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where R^4 is hydrogen.

3. A synergistic herbicidal mixture as claimed in any of claims 1 to 2, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R^1 is halogen, C_1-C_6-alkyl or C_1-C_6-alkylsulfonyl;

R^3 is halogen or C_1-C_6-alkylsulfonyl;

4. A synergistic herbicidal mixture as claimed in any of claims 1 to 3, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R^2 is a heterocyclic radical selected from the group: isoxazol-3-yl, isoxazol-5-yl and 4,5-dihydroisoxazol-3-yl, it being possible for the three radicals mentioned to be unsubstituted or mono- or polysubstituted by halogen, C_1-C_4-alkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy or C_1-C_4-alkylthio.

5. A synergistic herbicidal mixture as claimed in any of claims 1 to 4, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R^2 is isoxazol-5-yl, 3-methyl-isoxazol-5-yl, 4,5-dihydroisoxazol-3-yl, 5-methyl-4,5-dihydroisoxazol-3-yl, 5-ethyl-4,5-dihydroisoxazol-3-yl or 4,5-dimethyl-4,5-dihydroisoxazol-3-yl.

6. A synergistic herbicidal mixture as claimed in any of claims 1 to 5, comprising, as component A), 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

7. A synergistic herbicidal mixture as claimed in any of claims 1 to 5, comprising, as component A) 4-[2-methyl-3-(4,5-di-

hydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

8. A synergistic herbicidal mixture as claimed in any of claims 1 to 7, comprising, two active ingredients, a 3-heterocyclyl-substituted benzoyl derivative of the formula I (component A) as claimed in claims 1 to 7 and the compound of formula IIa (component B).

9. A synergistic herbicidal mixture as claimed in claim 8, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and as component B) the compound of formula IIa.

10. A synergistic herbicidal mixture as claimed in any of claims 1 to 7, comprising, three active ingredients, a 3-heterocyclyl-substituted benzoyl derivative of the formula I (component A) as claimed in claims 1 to 7 and as component B the compound of formula IIa and the compound of formula IIb.

11. A synergistic herbicidal mixture as claimed in claim 10, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and as component B) the compound of formula IIa and the compound of formula IIb.

12. A synergistic herbicidal mixture as claimed in any of claims 1 to 7, comprising, two active ingredients, a 3-heterocyclyl-substituted benzoyl derivative of the formula I (component A) as claimed in claims 1 to 7 and as component B the compound of formula IIb.

13. A synergistic herbicidal mixture as claimed in claim 12, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and as component B) the compound of formula IIb.

14. A synergistic herbicidal mixture as claimed in any of claims 1 to 7, comprising, at least,

as component A) a 3-hetero-cyclyl-substituted benzoyl derivative of the formula I as claimed in claims 1 to 7;
as component B) at least the compound of formula IIa or the compound of formula IIb; and
as component C) at least one herbicidal compound from the group of the acetyl-CoA carboxylase inhibitors (ACC), acetolactate synthase inhibitors (ALS), amides, auxin herbicides, auxin transport inhibitors, carotenoid biosynthesis inhibitors, enolpyruvylshikimate 3-phosphate synthase inhibitors (EPSPS), glutamine synthetase inhibitors, lipid biosynthesis inhibitors, mitosis inhibitors, protoporphyrinogen IX oxidase inhibitors, photosynthesis inhibitors, synergists, growth substances, cell wall biosynthesis inhibitors and a variety of other herbicides.

15. A synergistic herbicidal mixture as claimed in claim 1 or 14 comprising, as component C), at least one herbicidal compound from the groups C1 to C16:

C1 acetyl-CoA carboxylase inhibitors (ACC):
cyclohexenone oxime ethers, phenoxyphenoxypropionic esters or arylaminopropionic acids;

C2 acetolactate synthase inhibitors (ALS):
imidazolinones, pyrimidyl ethers, sulfonamides or sulfonylureas;

C3 amides;

C4 auxin herbicides:
pyridinecarboxylic acids, 2,4-D or benazolin;

C5 auxin transport inhibitors;

C6 carotenoid biosynthesis inhibitors;

C7 enolpyruvylshikimate 3-phosphate synthase inhibitors (EPSPS);

C8 glutamine synthetase inhibitors;

C9 lipid biosynthesis inhibitors:
anilides, chloroacetanilides, thioureas, benfuresate or perfluidone;

C10 mitosis inhibitors:
carbamates, dinitroanilines, pyridines, butamifos, chlorthal-dimethyl (DCPA) or maleic hydrazide;

C11 protoporphyrinogen IX oxidase inhibitors:
diphenyl ethers, oxadiazoles, cyclic imides or pyrazoles;

C12 photosynthesis inhibitors:
propanil, pyridate, pyridafol, benzothiadiazinones, dinitrophenols, dipyridylenes, ureas, phenols, chloridazon, triazines, triazinones, uracils or biscarbamates;

C13 synergists:
oxiranes;

C14 growth substances:
aryloxyalkanoic acids, benzoic acids or quinolinecarboxylic acids;

C15 cell wall synthesis inhibitors:

C16 various other herbicides:
dichloropropionic acids, dihydrobenzofurans, phenylacetic acids or aziprotryn, barban, bensulide, benzthiazuron, benzofluor, buminafos, buthidazole, buturon, cafenstrole, chlorbufam, chlorofenprop-methyl, chloroxuron, cinmethylin, cumyluron, cycluron, cyprazine, cyprazole, dibenzyluron, dipropetryn, dymron, eglinazin-ethyl, endothall, ethiozin, flucabazone, fluorbentranil, flupoxam, isocarbamid, isopropalin, karbutilate, mefluidide, monuron, napropamide, napropanilide, nitralin, oxaciclomefone, phenisopham, piperophos, pro-

cyazine, profluralin, pyributicarb, secbumeton, sulfallate (CDEC), terbucarb, triazofenamide, triaziflam or trimeturon;

or their environmentally compatible salts.

16. A synergistic herbicidal mixture as claimed in claims 1 or 14, comprising, as component C), at least one herbicidal compound from the groups C1 to C16:

C1 acetyl-CoA carboxylase inhibitors (ACC):

- cyclohexenone oxime ethers:
  alloxydim, clethodim, cloproxydim, cycloxydim, sethoxydim, tralkoxydim, butroxydim, clefoxydim or tepraloxydim;
- phenoxyphenoxypropionic esters:
  clodinafop-propargyl (and, if appropriate, cloquintocet), cyhalofop-butyl, diclofop-methyl, fenoxaprop-ethyl, fenoxaprop-P-ethyl, fenthiapropethyl, fluazifop-butyl, fluazifop-P-butyl, haloxyfop-ethoxyethyl, haloxyfop-methyl, haloxyfop-P-methyl, isoxapyrifop, propaquizafop, quizalofop-ethyl, quizalofop-P-ethyl or quizalofop-tefuryl; or
- arylaminopropionic acids:
  flamprop-methyl or flamprop-isopropyl;

C2 acetolactate synthase inhibitors (ALS):

- imidazolinones:
  imazapyr, imazaquin, imazamethabenz-methyl (imazame), imazamox, imazapic, imazethapyr or imazamethapyr;
- pyrimidyl ethers:
  pyrithiobac-acid, pyrithiobac-sodium, bispyribac-sodium, KIH-6127 or pyribenzoxym;
- sulfonamides:
  florasulam, flumetsulam or metosulam; or
- sulfonylureas:

amidosulfuron, azimsulfuron, bensulfuron-methyl, chlorimuron-ethyl, chlorsulfuron, cinosulfuron, cyclosulfamuron, ethametsulfuron-methyl, ethoxysulfuron, flazasulfuron, halosulfuron-methyl, imazosulfuron, metsulfuron-methyl, nicosulfuron, primisulfuron-methyl, prosulfuron, pyrazosulfuron-ethyl, rimsulfuron, sulfometuron-methyl, thifensulfuron-methyl, triasulfuron, tribenuron-methyl, triflusulfuron-methyl, N-[[[4-methoxy-6-(trifluoromethyl)-1,3,5-triazin-2-yl]amino]-carbonyl]-2-(trifluoromethyl)-benzenesulfonamide, sulfosulfuron or iodosulfuron;

C3 amides:
- allidochlor (CDAA), benzoylprop-ethyl, bromobutide, chlorthiamid, diphenamid, etobenzanid (benzchlomet), fluthiamide, fosamin or monalide;

C4 auxin herbicides:
- pyridine carboxylic acids: clopyralid or picloram; or
- 2,4-D or benazolin;

C5 auxin transport inhibitors:
- naptalame or diflufenzopyr;

C6 carotenoid biosynthesis inhibitors:
- benzofenap, clomazone (dimethazone), diflufenican, fluorochloridone, fluridone, pyrazolynate, pyrazoxyfen, isoxaflutole, isoxachlortole, mesotrione, sulcotrione (chlormesulone), ketospiradox, flurtamone, norflurazon or amitrol;

C7 enolpyruvylshikimate-3-phosphate synthase inhibitors (EPSPS):
- glyphosate or sulfosate;

C8 glutamine synthetase inhibitors:
- bilanafos (bialaphos) or glufosinate-ammonium;

C9 lipid biosynthesis inhibitors:

- anilides:
  anilofos or mefenacet;
- chloroacetanilides:
  dimethenamid, S-dimethenamid, acetochlor, alachlor, butachlor, butenachlor, diethatyl-ethyl, dimethachlor, metazachlor, metolachlor, S-metolachlor, pretilachlor, propachlor, prynachlor, terbuchlor, thenylchlor or xylachlor;
- thioureas:
  butylate, cycloate, di-allate, dimepiperate, EPTC, esprocarb, molinate, pebulate, prosulfocarb, thiobencarb (benthiocarb), tri-allate or vernolate; or
- benfuresate or perfluidone;

C10 mitosis inhibitors:

- carbamates:
  asulam, carbetamid, chlorpropham, orbencarb, pronamid (propyzamid), propham or tiocarbazil;
- dinitroanilines:
  benefin, butralin, dinitramin, ethalfluralin, fluchloralin, oryzalin, pendimethalin, prodiamine or trifluralin;
- pyridines:
  dithiopyr or thiazopyr; or
- butamifos, chlorthal-dimethyl (DCPA) or maleic hydrazide;

C11 protoporphyrinogen IX oxidase inhibitors:

- diphenyl ethers:
  acifluorfen, acifluorfen-sodium, aclonifen, bifenox, chlornitrofen (CNP), ethoxyfen, fluorodifen, fluoroglycofen-ethyl, fomesafen, furyloxyfen, lactofen, nitrofen, nitrofluorfen or oxyfluorfen;
- oxadiazoles:
  oxadiargyl or oxadiazon;

- cyclic imides:
  azafenidin, butafenacil, carfentrazone-ethyl, cinidon-ethyl, flumiclorac-pentyl, flumioxazin, flumipropyn, flupropacil, fluthiacet-methyl, sulfentrazone or thidiazimin; or
- pyrazoles:
  ET-751, JV 485 or nipyraclofen;

C12 photosynthesis inhibitors:

- propanil, pyridate or pyridafol;
- benzothiadiazinones:
  bentazone;
- dinitrophenols:
  bromofenoxim, dinoseb, dinoseb-acetate, dinoterb or DNOC;
- dipyridylenes:
  cyperquat-chloride, difenzoquat-methylsulfate, diquat or paraquat-dichloride;
- ureas:
  chlorbromuron, chlorotoluron, difenoxuron, dimefuron, diuron, ethidimuron, fenuron, fluometuron, isoproturon, isouron, linuron, methabenzthiazuron, methazole, metobenzuron, metoxuron, monolinuron, neburon, siduron or tebuthiuron;
- phenols:
  bromoxynil or ioxynil;
- chloridazon;
- triazines:
  ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, hexazinone, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine or trietazine;
- triazinones:
  metamitron or metribuzine;
- uracils:
  bromacil, lenacil or terbacil; or
- biscarbamates:
  desmedipham or phenmedipham;

C13 synergists:
- oxiranes:
tridiphane;

C14 growth substances:
- aryloxyalkanoic acids:
2,4-DB, clomeprop, dichlorprop, dichlorprop-P (2,4-DP-P), fluoroxypyr, MCPA, MCPB, mecoprop, mecoprop-P, or triclopyr;
- benzoic acids:
chloramben or dicamba; or
- quinolinecarboxylic acids:
quinclorac or quinmerac;

C15 cell wall synthesis inhibitors:
- isoxaben or dichlobenil;

C16 various other herbicides:
- dichloropropionic acids:
dalapon;
dihydrobenzofurans:
ethofumesate;
- phenylacetic acids:
chlorfenac (fenac); or
- aziprotryn, barban, bensulide, benzthiazuron, benzofluor, buminafos, buthidazole, buturon, cafenstrole, chlorbufam, chlorfenprop-methyl, chloroxuron, cinmethylin, cumyluron, cycluron, cyprazine, cyprazole, dibenzyluron, dipropetryn, dymron, eglinazin-ethyl, endothall, ethiozin, flucabazone, fluorbentranil, flupoxam, isocarbamid, isopropalin, karbutilate, mefluidide, monuron, napropamide, napropanilide, nitralin, oxaciclomefone, phenisopham, piperophos, procyazine, prosulfuralin, pyributicarb, secbumeton, sulfallate (CDEC), terbucarb, triazofenamid, triaziflan or trimeturon;

or their environmentally compatible salts.

17. A synergistic herbicidal mixture as claimed in 15, comprising, as component C), at least one herbicidal compound from the groups C5, C9 or C 12.

18. A synergistic herbicidal mixture as claimed in 17, comprising, as component C), at least one herbicidal compound from the groups C9 or C 12.

19. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) a herbicidal compound from the group C5.

20. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) diflufenzopyr.

21. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) a herbicidal compound from the group C9.

22. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) an a chloroacetanilide.

23. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxa-

zol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) acetochlor.

24. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) a herbicidal compound from the group C12.

25. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) a triazine from group C12.

26. A synergistic herbicidal mixture as claimed in claim 15, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) atrazine.

27. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) a herbicidal compound from the group C5 and a herbicidal compound from the group C12.

28. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula

IIa or the compound of formula IIb, and as component C) an auxin transport inhibitor and a triazine.

29. A synergistic herbicidal mixture as claimed in claim 15 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) at least the compound of formula IIa or the compound of formula IIb, and as component C) andiflufenzopyr and atrazine.

30. Synergistic herbicidal mixture as claimed in any of claims 1 to 29, wherein component A) and B) are present in a weight ratio of 1:0.001 to 1:500.

31. Synergistic herbicidal mixture as claimed in any of claims 14 to 30, wherein component A) and component C) are present in a weight ratio of 1:0.002 to 1:800.

32. A herbicidal composition comprising a herbicidally active amount of a synergistic herbicidal mixture as claimed in any of claims 1 to 31, at least one inert liquid and/or solid carrier and, if desired, at least one surfactant.

33. A process for the preparation of herbicidal compositions as claimed in claim 32, wherein component A), component B), if desired, component C), at least one inert liquid and/or solid carrier and, if appropriate, a surfactant are mixed.

34. A method of controlling undesired vegetation, which comprises applying a synergistic herbicidal mixture as claimed in any of claims 1 to 31 before, during and/or after the emergence of undesired plants, it being possible for the herbicidally active compounds of components A), B) and, if desired, C) to be applied simultaneously or in succession.

35. A method of controlling undesired vegetation as claimed in claim 34, wherein the leaves of the crop plants and of the undesired plants are treated.